Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	25317473	@ad<"20031219"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:04
L2	2	"20050138309".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:07
L3 .	15	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup)same destination same (list table)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:52
L4	8	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) same destination same (list table) and compar\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:19
L5	16	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) and destination same (origin\$5 source) same (list table) and compar\$4 and updat\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:20
L6	1	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) and (destination target) same (origin\$5 source) same (list table) same compar\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:29
L7	50	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) and (destination target) same (origin\$5 source) same (list table)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:31

L8	44	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) and (destination target) same (origin\$5 source) same (list table) and select\$3 and (compar\$4 updat\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:33
L9	11	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) and (destination target) same (origin\$5 source) same (list table) and select\$3 and (compar\$4 updat\$3) and (copy\$3 copies duplicat\$4 mirror\$3) with (stop\$4 interrupt\$3 ceas\$3 cancel\$4 recall\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:38
L10	2	1 and (identification ID) with volume same (copy copies duplicat\$4 mirror backup) and (destination target) same (origin\$5 source) same (list table) same select\$3 and (compar\$4 updat\$3) and (copy\$3 copies duplicat\$4 mirror\$3) with (stop\$4 interrupt\$3 ceas\$3 cancel\$4 recall\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:39
L11	6427	(hiraiwa.in. inoue.in. goto.in.)	US-PGPUB	OR	ON	2007/03/23 16:53
L12	2	1 and 11 and "comparing step".clm.	US-PGPUB	OR	ON	2007/03/23 16:55
L13	0	1 and 11 and "comparing step".clm. and "deletion step".clm.	US-PGPUB	OR .	ON	2007/03/23 16:56
L14	1919	711/162.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:57
L15	616	711/161.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 16:57
L16	2587	711/154.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:05

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L17	943	711/165.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:07
L18	2149	714/6.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:08
L19	709	714/7.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:08
L20	559	714/710.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:26
L21	16	(14 15 16 17 18 19 20) and (3 4 5 6 7 8 9 10)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:28
L22	1886	707/204.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR .	ON	2007/03/23 17:28
L23	1736	707/203.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:28

L24	1534	707/201.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:28
L25	25	(14 15 16 17 18 19 20 22 23 24) and (3 4 5 6 7 8 9 10)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/23 17:29

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Improving storage system availability with D-GRAID

Muthian Sivathanu, Vijayan Prabhakaran, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau

May 2005 ACM Transactions on Storage (TOS), Volume 1 Issue 2

Publisher: ACM Press

Full text available: 常 pdf(700.30 KB) Additional Information: full citation, abstract, references, index terms

We present the design, implementation, and evaluation of D-GRAID, a gracefully degrading and quickly recovering RAID storage array. D-GRAID ensures that most files within the file system remain available even when an unexpectedly high number of faults occur. D-GRAID achieves high availability through aggressive replication of semantically critical data, and fault-isolated placement of logically related data. D-GRAID also recovers from failures quickly, restoring only live file system data to a h ...

Keywords: Block-based storage, Disk array, RAID, fault isolation, file systems, smart disks

Highly available systems for database applications

Won Kim

March 1984 ACM Computing Surveys (CSUR), Volume 16 Issue 1

**Publisher: ACM Press** 

Full text available: 宝 pdf(2.43 MB)

Additional Information: full citation, abstract, references, citings, index terms, review

As users entrust more and more of their applications to computer systems, the need for systems that are continuously operational (24 hours per day) has become even greater. This paper presents a survey and analysis of representative architectures and techniques that have been developed for constructing highly available systems for database applications. It then proposes a design of a distributed software subsystem that can serve as a unified framework for constructing database applica ...

3 Evaluation of remote backup algorithms for transaction-processing systems

Christos A. Polyzois, Héctor García-Molina

September 1994 ACM Transactions on Database Systems (TODS), Volume 19 Issue 3

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index

Full text available: R pdf(1.87 MB)

terms, review

A remote backup is a copy of a primary database maintained at a geographically separate location and is used to increase data availability. Remote backup systems are typically log-based and can be classified into 2-safe and 1-safe, depending on whether transactions commit at both sites simultaneously or first commit at the primary and are later propagated to the backup. We have built an experimental database system on which we evaluated the performance of the epoch and the dependency recons ...

**Keywords**: disaster recovery, hot spare, hot standby, remote backup

Real-time shading

Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04

Publisher: ACM Press

Full text available: <mark>定 pdf(7.39 MB</mark>) Additional Information: full citation, abstract

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with oneof-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

5 The Conquest file system: Better performance through a disk/persistent-RAM hybrid



design

An-I Andy Wang, Geoff Kuenning, Peter Reiher, Gerald Popek August 2006 ACM Transactions on Storage (TOS), Volume 2 Issue 3

Publisher: ACM Press

Additional Information: full citation, abstract, references, index terms 

Modern file systems assume the use of disk, a system-wide performance bottleneck for over a decade. Current disk caching and RAM file systems either impose high overhead to access memory content or fail to provide mechanisms to achieve data persistence across reboots. The Conquest file system is based on the observation that memory is becoming inexpensive, which enables all file system services to be delivered from memory, except for providing large storage capacity. Unlike caching, Con ...

Keywords: Persistent RAM, file systems, performance measurement, storage management

Illustrative risks to the public in the use of computer systems and related technology



Peter G. Neumann

January 1996 ACM SIGSOFT Software Engineering Notes, Volume 21 Issue 1

Publisher: ACM Press

Additional Information: full citation

7 Level II technical support in a distributed computing environment



Tim Leehane

September 1996 Proceedings of the 24th annual ACM SIGUCCS conference on User services SIGUCCS '96

Publisher: ACM Press

Full text available: pdf(5.73 MB) Additional Information: full citation, references, index terms

Illustrative risks to the public in the use of computer systems and related technology



Peter G. Neumann

January 1994 ACM SIGSOFT Software Engineering Notes, Volume 19 Issue 1

Publisher: ACM Press

Full text available: pdf(2.24 MB) Additional Information: full citation, citings, index terms

TRAP-Array: A Disk Array Architecture Providing Timely Recovery to Any Point-in-



**time** 

Qing Yang, Weijun Xiao, Jin Ren

May 2006 ACM SIGARCH Computer Architecture News, Proceedings of the 33rd annual international symposium on Computer Architecture ISCA '06, Volume 34 Issue 2

Publisher: IEEE Computer Society, ACM Press

Full text available: pdf(379.07 KB) Additional Information: full citation, abstract, index terms

RAID architectures have been used for more than two decades to recover data upon disk failures. Disk failure is just one of the many causes of damaged data. Data can be damaged by virus attacks, user errors, defective software/firmware, hardware faults, and site failures. The risk of these types of data damage is far greater than disk failure with today's mature disk technology and networked information services. It has therefore become increasingly important for today's disk array to be able to ...

10 Distributed logging for transaction processing



Dean S. Daniels, Alfred Z. Spector, Dean S. Thompson

December 1987 ACM SIGMOD Record, Proceedings of the 1987 ACM SIGMOD international conference on Management of data SIGMOD '87, Volume 16 Issue 3

Publisher: ACM Press

Full text available: pdf(1.51 MB)

Additional Information: full citation, abstract, references, citings, index terms

Increased interest in using workstations and small processors for distributed transaction processing raises the question of how to implement the logs needed for transaction recovery. Although logs can be implemented with data written to duplexed disks on each processing node, this paper argues there are advantages if log data is written to multiple log server nodes. A simple analysis of expected logging loads leads to the conclusion that a high performance, microprocessor b ...

11 Compiler transformations for high-performance computing David F. Bacon, Susan L. Graham, Oliver J. Sharp December 1994 ACM Co.



December 1994 ACM Computing Surveys (CSUR), Volume 26 Issue 4

Publisher: ACM Press

Full text available: pdf(6.32 MB)

Additional Information: full citation, abstract, references, citings, index terms, review

In the last three decades a large number of compiler transformations for optimizing programs have been implemented. Most optimizations for uniprocessors reduce the number of instructions executed by the program using transformations based on the analysis of scalar quantities and data-flow techniques. In contrast, optimizations for highperformance superscalar, vector, and parallel processors maximize parallelism and memory locality with transformations that rely on tracking the properties o ...